

but it usually develops from six months to one and a half years after the tuberculous process has begun.

The shambling gait and manner in which the patient will drag his leg, will usually first attract attention, and there will also be noticed undue muscular fatigue and weariness on slight exertion, and there soon appears the inability to stand erect. The exaggerated reflexes are shown upon examination of patella and ankle, and still later on, muscular rigidity develops. Motor paralysis precedes the sensory, and sensation may remain after loss of motion, as the anterolateral columns receive the most pressure, but if the case continues to progress unfavorably, there will be more or less sensory paralysis.

It is very necessary to distinguish true paralysis from cases that may simulate this condition, in those patients who are simply bedridden, but are not paralyzed, and whose reflexes are normal. They may be asthenic, or have contraction of the psoas muscle and may be discouraged and believe that they cannot walk. Both legs of a patient may become equally affected at the same time, or one may precede, and the same may be noticed in convalescence.

In the early stage, where weakness is about the only symptom, spastic rigidity of the limbs may be produced by moving them, or by stimulating the reflexes. Sensation, in the mild cases, although not entirely lost, is nevertheless impaired, and so, also, is control of the bladder, while that of the sphincter ani is but slightly affected. Pain is rare in paralysis, and, if present, is but the usual characteristic pain of the disease. The extent of the paralysis naturally depends greatly upon the location of the cord pressure.

In convalescence the first favorable indication is lessening of the rigidity, with slight return of motion to the toes and feet, with more or less rapid improvement thereafter. The exaggerated reflexes may persist for quite a long period after recovery, and many patients show them who were not paralyzed.

Prognosis is, on the whole, fairly good in these cases of paralysis, and recovery may safely be anticipated in 70 per cent, and may occur early if proper treatment has been instituted. It is usually complete without subsequent traces. The prognosis depends greatly, of course, upon the extent and amount of cord pressure, as shown by the degree of paralysis, and recovery will be slower and more doubtful in those cases where the sphincters are much involved, but may eventually occur even in the worst and apparently most hopeless cases.

There may be a recurrence of the symptoms after an apparent recovery, and this has been reported from one to seven times. These relapses may be possible where treatment has been either neglected altogether, or immobilization of the spine has been too brief.

The treatment of paralysis is mechanical, and thoroughly efficient treatment of the disease in general fixation of the spine as perfectly as possible. This needs particular emphasis, as there is sometimes an effort made to have the physician relax the immobilization treatment at this very time when greatest care and vigilance are imperatively indicated. During convalescence, massage and manipulation of the limbs should be faithfully employed, but these methods are contra-indicated in the early period, being then liable to overstimulate the nerve centers.

Iodid of potassium may be administered in small doses, gradually increasing to a considerable dosage, then slowly decreasing to the original amount. The operation of laminectomy is not now recommended except in rare and selected cases, and is seldom indicated.

#### THE TREATMENT OF SCLEROSIS OF THE MIDDLE EAR.\*

By M. W. FREDRICK, M. D., San Francisco.

BY SCLEROSIS of the middle ear I mean that condition in which the mucous membrane lining the cavity has become highly atrophic, the ossicles rigid, and the bone-conduction, in many cases, somewhat lowered from disuse. I think it worth while to define the term, as many writers use it rather loosely, including those conditions which are really the initiatory stages of sclerosis, such as hypertrophic otitis media chronica.

The many methods proposed for treating sclerosis of the middle ear, most of which were brought out with a great flourish of trumpets, only to sink into oblivion soon after, prove that we are yet a great way from having found a really good method of relieving this most distressing condition. The great activity in this direction, however, promises that before long we may arrive at some method which will be of permanent value.

Not so many years ago the sufferers with sclerosis were refused all treatment by honest aurists, and were advised to resign themselves to their condition. To-day, however, those in whom the bone-conduction is still good can have the satisfaction of trying some of the methods which have proven themselves efficacious in similar cases. Where the bone, or tissue-perception, is

\* Read before the Medical Society of the State of California at the annual meeting held in San Francisco, April 14 to 17, 1902.

greatly diminished it would be useless to try anything until we have found a remedy for atrophy of the special nerves, which, in the light of our present anatomical and pathological knowledge, seems highly improbable.

The best remedy for sclerosis lies, of course, in the prophylaxis. Educating people, especially parents, to attend to nasal and pharyngeal catarrhs, nasal obstruction, adenoid growths of the pharyngeal vault, the complete cure of acute cases of otitis media, would avert the majority of cases of sclerosis. Unfortunately the underrating of the importance of the conditions just mentioned, together with the painlessness and the insidious progress of sclerosis, keeps most patients in ignorance of the gravity of his malady until it begins to seriously interfere with his relations with the world, or the tinnitus becomes so annoying that it can not further be ignored. Then the aurist is asked to cure a condition which has existed for many years, when the deviation from the normal is so great that a return to anything like normal conditions seems entirely out of the question. It is now a question of relief only, and in that direction a great deal of work has been done in the last decade by conscientious workers.

One very promising means of prophylaxis of recent mention is the method of electrolytic dilation of strictures of the Eustachian tube, about which Duell, Newman, Harris, Kenefick and others have written a good deal of late. The method has been tried by several men in this city who report results quite as satisfactory as those of the authors mentioned. The short time that the method has been in use prevents one from expressing an opinion as to its permanent value. What value the method can have in old cases of sclerosis, with wide, dry Eustachian tubes, is beyond my comprehension; nor can I, *a priori*, understand how a severe case of tinnitus can be relieved by several applications of the electric bougie in the cases of sclerosis already referred to.

The simple Politzeration has already become obsolete, as has also the injection of fluids and oils through the Eustachian catheter. I have personally experimented with a large number of fluids and oils without deriving the slightest benefit from them. In England the injection of warm solutions of potassium iodid was long in vogue, and in this country other preparations of iodid have been extensively used. I tried for a considerable period of time sozoiodolic acid, which was largely advertised in the German journals as an absorbent of connective tissue. I used it both by instillation into the external meatus and by forcing it through the Eustachian catheter. The most I ever got from it was severe irritations of the middle and outer ear. What seemed of most good in my hands was a solution of camphor and

menthol in albolene, but even that did not seem to me of high value.

As to internal medication for sclerosis the drugs vaunted by their proponents have generally proved worthless in the hands of others. Thyroid extract was recommended, especially in young people, but has shown itself worthless except in the case of subjects of myxedema. Wilde and Gruber spoke very highly of tincture of arnica in 15-drop doses, and of muriate of ammonia. In cases with a neurotic basis, the hydrobromic acid is useful in diminishing tinnitus.

The treatment with pilocarpin injected hypodermatically I consider a waste of time and energy in these cases, as the improvement, just as in the case of optic atrophy treated with strychnin injections, is merely temporary, and only adds to the discomfort of the patient. The injection of pepsin from the stomach of a dog into the middle ear, like many other measures proposed for the relief of this condition, is so fanciful as to seem like the outcome of despair.

Of course the general condition will need attending to in many cases, and there we shall have good use for drugs and other measures to remedy the anemia, syphilis, gout, rheumatism, etc., which are often causative factors of sclerosis. I want to say that I think aurists are often remiss in seeking the origin of the trouble. To them the local symptoms were all-sufficient, and their horizon seems bounded by the aural symptoms. The hygiene of the patient will need looking after, and often a change of employment will be advisable. The latter is often a hard thing for the patient, but in the case of young people it should be insisted on, when the occupation is in a noisy factory, or in a trade which calls for frequent wetting of hands and feet, and exposure to draughts. One thing which our San Francisco patients need to be cautioned against is the habit of riding on dummies of the street cars. Of course, excesses in tobacco and alcohol are strictly to be forbidden, and they should be warned when swimming to pack their ears with lambswool or some similar non-absorbent material.

For the relief of sclerosis vibratory massage has, in my hands, proved of the greatest value. I can look back upon about 100 cases of advanced sclerosis treated by that method, over half of which have been benefited. By benefited I mean that, first of all the disease has been arrested; secondly, that the hearing distance has increased; thirdly, that the tinnitus has decreased, and also that the range of tone perception, especially downwards, has been augmented.

I use an electric motor for performing the massage, both because I think it better for the patient, and as a matter of convenience to myself. The motor is about 1-10 horse-power, and operates a dental pump. In the head of this pump

is a valve, which, when open, produces a forward stroke only of the air, and when closed produces a to-and-fro movement of the air.

I introduce a catheter of the largest possible caliber into the Eustachian tube, and, with the valve open, allow the pump to act two or three minutes on each ear. Then I close the valve and apply the to-and-fro motion of the air to the drums through the external meatus by means of suitable earpieces, for about five minutes. I claim that the application of air-massage to the Eustachian tubes, especially in the case of wide, dry tubes, increases the circulation and restores their function in part, just as vibratory massage does in atrophic rhinitis. The value of massage applied to the stiffened drum and the rigid ossicles is as apparent as the massage of any stiff rigid joint would be.

The pump I use has a piston stroke of 15 millimeters, but, as the air passes through a long tube before reaching the ear, the effect is considerably diminished.

In the cases of people who live in the country, I had devised a method of self-treatment which I thought my own until I read of it in an Eastern journal. It consists simply in providing a set of auscultation tubes with a mouthpiece, which the patient by rhythmic suction causes to produce somewhat the same effect as the machine used in the office.

## CORRESPONDENCE.

### MANIFESTO ON USE OF ALCOHOL.

*Editor California State Journal of Medicine*—Dear Sir: Three times during the last half century medical manifestos have been issued giving the opinion of physicians on alcohol. The first was issued in 1839, and was signed by 86 persons. The second in 1847, and was signed by 2000 physicians, and the third appeared in 1871, with the signatures of over 4000 physicians, including the names of many leading physicians in all parts of the world. A fourth declaration of opinions is now being circulated for signatures, and reads as follows:

"The following statement has been agreed upon by the Council of the British Medical Temperance Association, the American Medical Temperance Association, the Society of Medical Abstinents in Germany, and leading physicians in England and on the continent. The purpose of this is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source.

"In view of the terrible evils which have resulted from the consumption of alcohol, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health, to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages.

"We think it ought to be known by all that:

"(1.) Experiments have demonstrated that even

a small quantity of alcoholic liquor, either immediately or after a short time, prevents perfect mental action, and interferes with the function of the cells and tissues of the body, impairing self-control by producing progressive paralysis of the judgment and of the will, and having other markedly injurious effects. Hence alcohol must be regarded as a poison, and ought not to be classed among foods.

"(2.) Observation established the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life.

"(3.) Total abstainers, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and recover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol.

"(4.) All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers.

"(5.) Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally and physically. Thus deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved, the importance and danger of this increase cannot be exaggerated.

"Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy, disease and death, not only in the case of those who take such beverages, but in the case of others who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but is also natural.

"We believe that such an era of health, happiness and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved."

This declaration has already received the signatures of over 1000 physicians in all parts of the country. I have been appointed chairman to present this manifesto to American physicians for their endorsement. I should be very glad to receive the name, title and address of any physician who is willing to aid by his signatures to correct public sentiment and assist in the prevention of one of the great evils of the age. This is purely a scientific effort for the purpose of having a general consensus of opinion of the leading physicians of the world, and it is assumed that American physicians are equally enthusiastic and prompt to lend their signatures to this statement as in the wine-drinking countries of Europe. A postal card with address and title is earnestly solicited from every medical man who would like to be represented in this great movement for a clearer comprehension of the subject. Address

T. D. CROTHERS, M. D.,

Hartford, Conn.